

BRICKWORK MASONRY

Results of tests made in the Laboratory of the School of Practical Science, Toronto, during the session of 1895-6, by Messrs. Wright and Keele.

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BRICKWORK PIERS.

The following tests were made with the object of determining the resistance to crushing offered by piers of ordinary brick, constructed in the same manner and of the materials as those most commonly used in practice in Toronto. These materials will fairly represent those in use throughout the Province of Ontario.

For this purpose a bricklayer and his assistant were engaged to procure from four different brickyards a quantity of each of their grade of bricks, the bricks being taken from the kiln as they came to hand.

The different bricks used were Kingston Road, first, second, and third quality; Humber, first and second; Yorkville, first and second; Carleton clinker and first, and Don Valley pressed brick, buff and red.

An individual test of each class of brick was made to determine its crushing strength and absorption. The absorption test was made as follows: The dry brick was carefully weighed, then immersed in water, and at the end of twenty minutes the brick was taken out, the surface water dried off, and again weighed. The brick was again immersed until the total time of immersion was thirty minutes, and again weighed.

This was the longest time allowed in water, having found in former tests of the same nature that the absorption of water by the brick was practically complete in thirty minutes.

The table of absorption is given below:

Kind of Brick.	Weight Dry.		Weight after 20 Minutes in Water.		Weight after 30 Minutes in Water.		Absorption in Ounces.	Absorption in %
	lbs.	ozs.	lbs.	ozs.	lbs.	ozs.		
Kingston Road, 1st class..	5	5 $\frac{3}{4}$	6	0	6	0	ozs.	
“ “ 2nd “	5	5 $\frac{1}{2}$	6	2 $\frac{1}{4}$	6	2 $\frac{1}{4}$	10 $\frac{1}{4}$	11.9
“ “ 3rd “	5	1 $\frac{3}{4}$	6	2 $\frac{1}{4}$	6	2 $\frac{1}{4}$	12 $\frac{3}{4}$	14.9
Carleton Clinker	5	0 $\frac{1}{4}$	5	10	5	10 $\frac{1}{2}$	14 $\frac{1}{4}$	17.1
“ “ 1st class ..	5	0 $\frac{1}{2}$	5	13 $\frac{1}{2}$	5	13 $\frac{3}{4}$	10 $\frac{1}{4}$	12.7
Yorkville 1st class..	4	10 $\frac{1}{2}$	5	11 $\frac{3}{4}$	5	11 $\frac{3}{4}$	13 $\frac{1}{4}$	16.4
“ “ “ 2nd “	4	11 $\frac{3}{4}$	6	0	6	0	17	22.7
Humber..... 1st “	5	7 $\frac{1}{2}$	6	2 $\frac{1}{2}$	6	2 $\frac{1}{2}$	20 $\frac{1}{4}$	26.7
“ “ “ 2nd “	5	8	6	6 $\frac{3}{4}$	6	4 $\frac{3}{4}$	11	12.6
Don Valley Pressed, red..	5	13 $\frac{3}{4}$	6	6	6	6 $\frac{1}{2}$	14 $\frac{3}{4}$	16.7
“ “ buff..	5	0	5	15 $\frac{1}{2}$	5	15 $\frac{3}{4}$	8 $\frac{3}{4}$	9.3
							15 $\frac{3}{4}$	9.7